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U.S. Department of  
Transportation

Office of the Secretary  
of Transportation

GENERAL COUNSEL

400 Seventh St., S.W.  
Washington, D.C. 20590

April 3, 2000

ORIGINAL

Magalie Roman Salas  
Secretary, Federal Communications Commission  
The Portals  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

RECEIVED

APR - 4 2000

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: CC Docket 98-1  
Ex Parte Meeting

Dear Ms. Salas:

On March 31, the undersigned, together with representatives of the Federal Highway Administration (FHWA), met with Claudia R. Pabo, Robert Atkinson, and Margaret Egler of the Common Carrier Bureau concerning the above-referenced proceeding. The FHWA attendees were William S. Jones (of the Intelligent Transportation Systems Joint Program Office), Beverly Russell (Office of the Chief Counsel), and Janis Gramatins (Office of Real Estate Services).

Specifically, the FHWA representatives stressed the critical role of safety in the history of access to rights-of-way on federal interstate highways, and tried to explore possible ways in which to accommodate both FHWA's concern for safety and the FCC's concern for telecommunications competition. A copy of the enclosed letter from the author of a safety study cited in the FCC's December, 23, 1999, decision in this docket was left with the FCC staff.

Pursuant to 47 C.F.R. § 1.1206(b)(2), this letter and one copy thereof are submitted for inclusion in the record in the above-referenced proceeding. I have also included an additional five copies for distribution to the individual Commissioners. Please contact me if you have any questions.

Sincerely,

Paul Samuel Smith  
Senior Trial Attorney  
(202) 366-9285

No. of Copies rec'd 44  
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Enclosure



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January 25, 2000

Mr. Rudy Umbs, HMHS-10  
Federal Highway Administration  
400 7<sup>th</sup> St., S.W.  
Washington, D.C. 20590

Subject: Review and interpretation of traffic accident statistics and statements in FCC 99-402

Dear Mr. Umbs:

I have written in response to our telephone conversation of January 19, 2000 concerning FCC Memorandum and Order No. FCC 99-402<sup>(1)</sup> and traffic accident statistics and statements presented in the Order. Paragraph No. 56<sup>(1)</sup> cites traffic accident statistics from Research Results Digest No. 192.<sup>(2)</sup> Paragraph No. 56 and 57<sup>(1)</sup> presents statements about the safety impacts of shoulder and roadside activities in highway work zones.

Graham-Migletz Enterprises, Inc. and Midwest Research Institute conducted the referenced research under National Cooperative Highway Research Program (NCHRP) Project 3-41.<sup>(2,3)</sup> I was the Principal Investigator of the project and lead the research effort.

I reviewed Research Results Digest No. 192<sup>(2)</sup> and the final report<sup>(3)</sup> from which the Digest was developed to determine if it can be concluded, as stated in Paragraph 56, that "... the record does not show a correlation between construction work off the highway shoulder and an increase in accidents."<sup>(1)</sup>

The conclusions of my review are presented first and are followed by the supporting material. Supporting material includes an interpretation of the statistics and conclusions in FCC 99-402.<sup>(1)</sup> Tables and figures from Research Results Digest No. 192, definitions of work zone conditions and activities,<sup>(2)</sup> and a reference list of materials reviewed are also presented.

**Conclusions of the Review and Interpretation of Traffic Accident Statistics and Statements Appearing in FCC 99-402**

1. Results from research conducted under NCHRP Project 3-41<sup>(2,3)</sup> cannot support the statement that "... the record does not show a correlation between construction work off the highway shoulder and an increase in accidents."

2. For shoulder/roadside work zones on rural freeways, there were not enough data to calculate a statistically valid change in traffic accident/crash rates from the "before" to "during" construction periods. That is, it cannot be stated that traffic accident/crash rates decreased in shoulder/roadside work zones on rural freeways, nor can it be stated that traffic accident/crash rates increased on shoulder/roadside work zones on rural freeways.
3. The total traffic accident rate for shoulder/roadside work zones on urban freeways decreased, while the fatal plus injury traffic accident rate increased from the "before" to "during" construction periods. That is, accident rates of the most serious accidents (fatal plus injury) showed that there are potential safety problems involved with conducting highway work in work zones on shoulders and roadsides of urban freeways.
4. It cannot be stated that fiber optic installation has no greater negative safety impact than typical roadside maintenance work. Work zones involving fiber optic installation were not studied under NCHRP Project 3-41. Not enough information is known about fiber optic installation activities (number of workers, equipment/machinery, duration of work, and length of the work zone) to form an opinion about the safety impacts to these activities.

## Background

Our research for the NCHRP was done to develop a procedure for determining work zone speed limits. An analysis of traffic accidents/crashes was performed and addressed the effect of work zones and work zone speed limits on work zone accident rates by comparing the accident rates during the construction period with the accident rates from a comparable period before the construction took place. Two accident rates were calculated for both the "before" and "during" construction periods; the total accident rates (total accidents/MVMT, i.e., fatal, injury, and property-damage-only accidents per million-vehicle-miles of travel) and fatal plus injury accident rates (fatal plus injury accidents/MVMT). To obtain the MVMT, or exposure, the product of the length of the work zone (mi), duration (days) that the work zone was present, and the average daily traffic (ADT) (veh/day) was calculated and then divided by one million.

**Accident Rates Generally Increase in Work Zones-** Literature was reviewed and showed that "traffic accident rates in work zones are generally higher than traffic accident rates experienced at the same site during normal operations before the beginning of construction or maintenance."<sup>(2)</sup> Our research of 66 work zones in seven states (See Table 9 in Ref. No. 2) confirmed the results found in the literature review and showed that the total accident rate increased 6.7 percent "during" construction when compared to the total accident rate "before" construction. Likewise, the fatal plus injury accident rate increased 6.9 percent. However, traffic accident experience is highly variable and accident rates in one work zone may increase, while accidents rates in a similar work zone may decrease from the "before" to "during" periods.

**Accident Rates on Traveled Way/Detour Work Zones Are Higher than on Shoulder/Roadside Work Zones**— Accident rates (See Table 10 in Ref. No. 2) were reviewed to compare work on the traveled way/detour work zones with work in shoulder/roadside work zones. For work zones on rural freeways, urban freeways, and rural two-lane highways, accident rates (both total and fatal plus injury accident rates) on traveled way/detour work zones were higher than the respective accident rates on shoulder/roadside work zones. That is, accident rates on traveled way/detour work zones on urban freeways were higher than accident rates on shoulder/roadside work zones on urban freeways, etc. Based on our research, work in shoulders/roadside work zones posed less of a traffic safety problem (negative safety impact) than work on traveled way/detour work zones.

**FCC 99-402**— The second sentence of Paragraph No. 56 (p. 29) in FCC 99-402<sup>(1)</sup> states that accident rates on shoulder and roadside work zones did not increase on any road type. The third sentence cites the decrease in accident rates for shoulder/roadside work zones on rural and urban freeways. Accident rates of shoulder/roadside work zones on rural freeways, urban freeways, and rural two-lane highways were reviewed (see Table 10 in Ref. No. 2). The total accident rates decreased from the "before" to "during" construction periods. However, the fatal and injury accident rates increased on urban freeways and rural two-lane highway work zones. The statement about shoulder/roadside accident rates not increasing on any road type is incomplete and misleading, because the accident rates of the most serious accidents (fatal plus injury accidents) did increase in two of the three work zone types. Although the fatal plus injury accident rate of shoulder/roadside work zones on rural freeways decreased, there were not enough data to produce meaningful conclusions for this type of work zone (See the discussion below).

I reviewed the accident statistics for the individual work zones comprising the two types of work zones of particular interest: shoulder/roadside work zones on rural freeways and shoulder/roadside work zones on urban freeways and provide comments about the statistics.

**Shoulder and Roadside Work Zones on Rural Freeways— Research Results Digest No. 192<sup>(2)</sup>** states that "Only two of the study sites involved shoulder and roadside work on rural freeways. These data sites did not provide enough data to perform any meaningful analysis of speed limit practices." That is, while the accident statistics cited in Paragraph No. 56 of FCC 99-402<sup>(1)</sup> are correct, there were not enough data to reach any statistically valid conclusions concerning accident rates on shoulder/roadside work zones on rural freeways. In addition, the two study sites/work zones both involved shoulder work. Even if one wanted to reach conclusions about roadside work zones, based on little data, it cannot be done because there were no roadside work zones in the category.

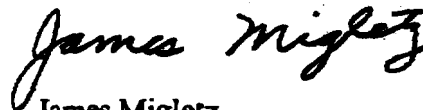
**Shoulder and Roadside Work Zones on Urban Freeways**— There were 11 work zones (five shoulder and six roadside) comprising the data sample. The total accident rate decreased 2.2 percent, while the fatal plus injury accident rate increased 2.7 percent from the "before" to "during" construction periods. That is, accident rates of the most serious accidents (fatal plus injury) showed that there are potential safety problems involved with conducting highway work in work zones on shoulders and roadsides of urban freeways. Common sense tells us that any time workers, traffic control devices, and equipment/machinery are present within the highway

right-of-way, there is potential for traffic accidents just because workers, traffic control devices, and equipment/machinery are present.

**Installation of Fiber Optic Facilities—** Paragraph No. 57 in FCC 99-402<sup>(1)</sup> states that the installation of fiber optic facilities has no greater safety impact than typical roadside maintenance. That may or may not be so. As with any highway work, there are "unusual situations" that may arise that could negatively impact the safety of roadside work. One would have to (1) compare the numbers of workers present, (2) the numbers and types of equipment/machinery used to perform the work, (3) the duration that the work zone is in place, and (4) the length of the work zone and the numbers and types of traffic control devices present. For example, how does fiber optic installation compare with removal of refuse, mowing of grass, sign maintenance, culvert construction, etc. in terms of the four above items? While it is true that fiber optic installation occurs on the roadside like other typical roadside work, it cannot be stated that fiber optic installation has no greater negative safety impact than other typical roadside work. Work zones involving fiber optic installation were not studied under NCHRP Project 3-41. I do not know enough information about fiber optic installation activities to form an opinion about the safety impacts of these activities.

Please feel free to contact me to discuss the conclusions of my review or any of the background material presented to support my conclusions.

Sincerely,



James Migletz  
Vice President

encl.: Pages 1, 29, and 30 from FCC 99-402

Page 1, Tables 9 and 10, and Figure 4 from Research Results Digest No. 192

## Definitions

Work zone conditions studied in the NCHRP research are defined below.<sup>(2,3)</sup> The work zone condition is determined by the location of work activities in relation to the traveled way. Illustrations of the work zone conditions are attached (Figure 4 in Ref. No. 2).

- Condition 1. **Roadside Activity**—Activities which are more than 10 ft from the edge of the traveled way.
- Condition 2. **Shoulder Activity**—Activities which encroach upon the area closer than 10 ft but not closer than 2 ft to the edge of the traveled way.
- Condition 3. **Lane Encroachment**—Activities which encroach upon the area from the edge of the traveled way to 2 ft from the edge of the traveled way.
- Condition 4. **Moving Activity on Shoulder**—Activities which require an intermittent or moving operation on the shoulder.
- Condition 5. **Lane Closure**—Activities which encroach upon the area between the centerline and the edge of the traveled way.
- Condition 6. **Temporary Detour**—Activities requiring a temporary detour to be constructed.
- Condition 7. **Centerline or Lane Line Encroachment**—Activities which encroach upon the area on both sides of the centerline of a roadway or lane line of a multilane highway.

## References

- 1. Federal Communications Commission, "Memorandum and Opinion Order No. FCC 99-402," Washington, DC, Paragraphs No. 56 and 57, pp. 29-30, December 20, 1999.
- 2. National Cooperative Highway Research Program, "Procedure for Determining Work Zone Speed Limits," Research Results Digest, No. 192, Washington, DC, September 1996.
- 3. Migletz, J., J.L. Graham, and D.W. Harwood, "Procedure for Determining Work Zone Speed Limits," unpublished final report for the National Cooperative Highway Research Program, Independence, MO, March 1993.